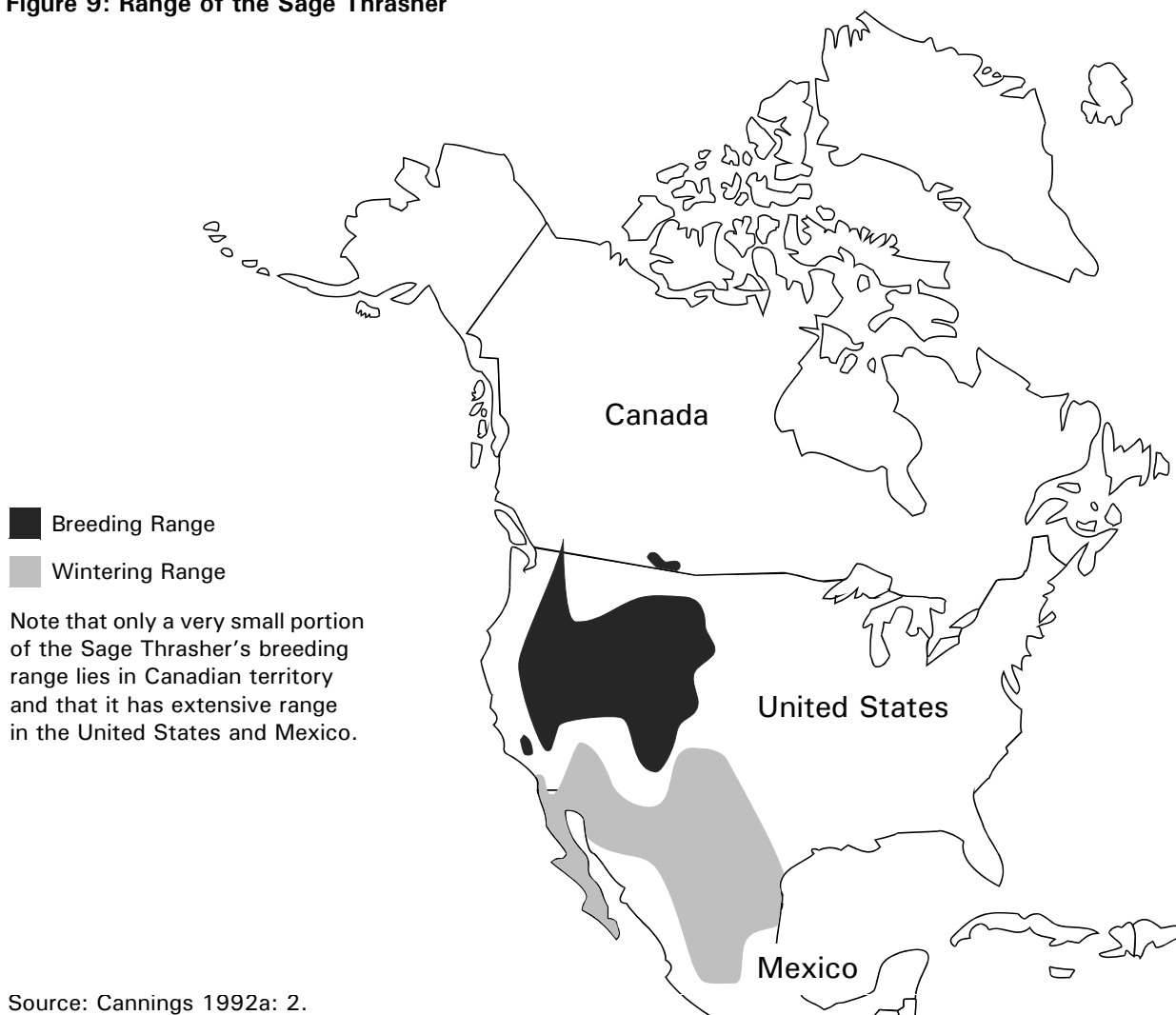


Appendix A

Species at Risk in Canada

Appendix A provides a table showing species listed by COSEWIC as extirpated, endangered or threatened with an indication of those listings that should be removed for various reasons and an explanation for their removal. Species assigned by COSEWIC to the categories “extinct” and “vulnerable” are not included in the table: extinct species should be removed from COSEWIC’s list because they are no longer at risk. It is also reasonable to exclude vulnerable species because they are not actually at risk but just of special concern. Indeed, this latter category is particularly subjective since, in a dynamic system that is constantly changing, species are in some sense always vulnerable to various kinds of natural and human influences.

Figure 9: Range of the Sage Thrasher



Source: Cannings 1992a: 2.

Species	Class	Category	Delete	Reason	Comments
Bear, Grizzly (<i>Ursus arctos</i>) (Prairie population)	Mammal	Extirpated	X	1	The prairie population of Grizzly bears is not a species and should not be on COSEWIC's list as a separate listing. According to COSEWIC, the prairie population has been extirpated since the 1880s. Grizzly bears are also listed in the vulnerable category.
Ferret, Black-footed (<i>Mustela nigripes</i>)	Mammal	Extirpated			Declared extirpated in 1978, affected by a lack of the prey species, Black-tailed prairie dogs.
Walrus, Atlantic (<i>Odobenus rosmarus rosmarus</i>) (Northwest Atlantic population)	Mammal	Extirpated	X	1, 2	Extirpated prior to 1800 through overhunting and exploitation. The Eastern Arctic population of Atlantic Walrus (<i>Odobenus rosmarus rosmarus</i>) was examined by COSEWIC and designated in the Not at Risk Category in 1993. Population is stable and reproducing successfully.
Whale, Gray (<i>Eschrichtius robustus</i>) (Atlantic Population)	Mammal	Extirpated	X	1	The Northeast Pacific population of Gray Whales (<i>Eschrichtius robustus</i>) was examined and designated in the Not at Risk Category by COSEWIC in 1987. The Atlantic population of Gray Whales is recovering from overhunting in the nineteenth century. They are protected by the Convention on International Trade in Endangered Species (CITES) and the International Whaling Commission (IWC).
Grouse, Sage (<i>Centrocercus urophasianus phasio</i>) (British Columbia population)	Bird	Extirpated	X	1, 2	The Prairie population of Sage Grouse (<i>Centrocercus urophasianus urophasianus</i>) appears in the Endangered category. It should not appear on the list twice.
Prairie-Chicken, Greater (<i>Tympanuchus cupido</i>)	Bird	Extirpated			Declared endangered in 1978. The last Canadian sighting was in 1987 and the species was declared extirpated in 1990.
Lizard, Pygmy Short-horned (<i>Phrynosoma douglassii douglassii</i>) (BC Population)	Reptile	Extirpated	X	1, 2	Another subspecies, the Eastern Short-horned Lizard (<i>Phrynosoma douglassii brevirostre</i>) is listed as Vulnerable. The Pygmy Short-horned Lizard is thought to have been extirpated as a result of habitat loss and degradation in the South Okanagan ecosystem.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Chub, Gravel (<i>Erimystax x-punctatus</i>)	Fish	Extirpated			Last recorded in Canada in 1958 in Thames River drainage. Declared extirpated in 1987. Affected by siltation of habitat. The range for this species is wide but discontinuous in eastern central North America, where it is not common. Viable populations of the subspecies <i>H. x-punctata trautmani</i> still exist in Ontario.
Paddlefish (<i>Polyodon spathula</i>)	Fish	Extirpated	X	3	Last reported in 1913, the paddlefish was declared extirpated in 1987 due to overfishing. The Canadian population, however, is probably a relict population and definitely at the northern edge of its range.
Wedgemussel, Dwarf (<i>Alasmidonta heterodon</i>)	Mollusca	Extirpated			Declared extirpated in 1999. Thought to be affected by degradation of habitat and competition from introduced species.
Marble, Island (<i>Euchloe ausonides</i>)	Lepidoptera	Extirpated			Declared extirpated in 1999.
Frosted Elfin (<i>Incisalia irus</i>)	Lepidoptera	Extirpated			Declared extirpated in 1999.
Butterfly, Karner Blue (<i>Lycaeides melissa samuelis</i>)	Lepidoptera	Extirpated			No sightings since 1991; declared extirpated in 1997. Efforts to rebuild and protect this species are underway in the United States.
Blue-eyed Mary (<i>Collinsia verna</i>)	Plant	Extirpated			No recorded sightings since 1954. Declared extirpated in 1987. Canada is the northern extent of its range. There are some populations in the United States, but they are rare.
Trefoil, Illinois Tick (<i>Desmodium illinoense</i>)	Plant	Extirpated			No recorded sightings since 1888. Declared extirpated in 1991. Canada is the northern edge of its range, which extends north and west of the Ohio River, east of the Great Plains, and down to central Texas. It was extirpated through habitat loss at the northern extent of its range.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Caribou, Peary (<i>Rangifer tarandus pearyi</i>) (Banks Island population)	Mammal	Endangered			Peary Caribou were considered one population and designated as threatened in 1979, but split into three in 1991 when the Banks Island population was uplisted to endangered. Possibly affected by climate change. Possibly affected by hunting and other human activities.
Caribou, Peary (<i>Rangifer tarandus pearyi</i>) (High Arctic population)	Mammal	Endangered	X	1	The High Arctic and Banks Island populations of Peary Caribou (<i>Rangifer tarandus pearyi</i>) are separately listed as endangered, and the Low Arctic population of Peary Caribou (<i>Rangifer tarandus pearyi</i>) is separately listed as threatened. The same species should not appear as three separate entries to be counted and reported as three species at risk. This population is possibly affected by climate change, disruption by human activity, and overhunting.
Fox, Swift (<i>Vulpes velox</i>)	Mammal	Endangered			Designated as extirpated in 1978, downlisted to endangered in 1998. At the northern extent of its range in Canada. Affected by shooting, trapping, and poisoning campaigns carried out against coyotes.
Marmot, Vancouver Island (<i>Marmota vancouverensis</i>)	Mammal	Endangered			Affected by limited, fragmented, and isolated habitats, and human activities.
Marten (<i>Martes americana atrata</i>)	Mammal	Endangered	X	2	Subspecies. Also known as the Newfoundland Pine Marten. Considered not to be at risk in 1979, uplisted to threatened in 1986, uplisted to endangered in 1996. Affected by overtrapping and habitat degradation (forest management), and mostly restricted to pockets of old growth habitat in western Newfoundland. There are viable populations of Pine Marten in Michigan, where the species has recovered to the point where its removal from the American list is expected.
Whale, Bowhead (<i>Balaena mysticetus</i>) (Eastern Arctic population)	Mammal	Endangered			Recovering from past whaling but affected by continued hunting in the Arctic. Whales are protected by IWC and CITES.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Whale, Bowhead (<i>Balaena mysticetus</i>) (Western Arctic population)	Mammal	Endangered	X	1	Eastern Arctic and Western Arctic populations of the Bowhead Whale (<i>Balaena mysticetus</i>) are listed separately as endangered; they should not be listed as two species at risk. This population is now recovering from past whaling but is still affected by continued hunting in the Arctic. Whales are protected by IWC and CITES.
Whale, Right (<i>Eubalaena glacialis</i>)	Mammal	Endangered			Recovering from past over-hunting.
Whale, White (Beluga) (<i>Delphinapterus leucas</i>) (St. Lawrence River population)	Mammal	Endangered			At risk from severe habitat degradation and pollution in the St. Lawrence River, and recovering from past over-hunting.
Whale, White (Beluga) (<i>Delphinapterus leucas</i>) (Ungava Bay population)	Mammal	Endangered	X	1	The Beaufort Sea/Arctic Ocean and West Hudson Bay populations are considered Not at Risk. The St. Lawrence River population, Ungava Bay population, and SE Baffin Island-Cumberland Sound populations of White (Beluga) Whale (<i>Delphinapterus leucas</i>) are listed separately as Endangered. The Eastern Hudson Bay population of White (Beluga) Whale (<i>Delphinapterus leucas</i>) is listed separately as Threatened. The Eastern High Arctic/Baffin Bay population of White (Beluga) Whale (<i>Delphinapterus leucas</i>) is listed separately as Vulnerable. The Beluga should not be counted as five separate species at risk. The Ungava Bay population is recovering from past over-hunting and is at risk from very low recruitment, ice and shallow water entrapment, and predation by polar bears and killer whales.
Whale, White (Beluga) (<i>Delphinapterus leucas</i>) (Southeast Baffin Island/Cumberland Sound population)	Mammal	Endangered	X	1	See Ungava Bay population. The Southeast Baffin Island/Cumberland Sound population is recovering from past over-hunting and is at risk from very low recruitment, ice entrapment, predation by polar bears and killer whales, and shallow water entrapment.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Wolverine (<i>Gulo gulo</i>) (Eastern population)	Mammal	Endangered	X	1	The Western population of Wolverine (<i>Gulo gulo</i>) is listed separately as Vulnerable. Considered one population in 1982; split into two populations in 1989: western population—Vulnerable; eastern population—Endangered.
Bobwhite, Northern (<i>Colinus virginianus</i>)	Bird	Endangered	X	3	Affected by habitat loss and fragmentation but at northern extent of range and “generally widespread and common throughout its range in eastern North America, with the exception of the western and northern peripheries” (Page and Austen 1994: 1).
Crane, Whooping (<i>Grus americana</i>)	Bird	Endangered			Affected by restricted breeding grounds and human activity and development.
Curlew, Eskimo (<i>Numenius borealis</i>)	Bird	Endangered			Once massively abundant, numbering in the millions in the 1880s, the Eskimo Curlew (<i>Numenius borealis</i>) was called the “Prairie Pigeon,” likening it to the Passenger Pigeon. Overhunted as food for fishermen and homesteaders, the very few remaining are affected by habitat loss.
Duck, Harlequin (<i>Histrionicus histrionicus</i>) (Eastern population)	Bird	Endangered	X	1	Specific population. The large Pacific population may have 1 million birds. The Eastern population is affected by loss and degradation of its habitat. Like other birds and water fowl, it is protected by the Migratory Birds Convention Act and provincial regulations.
Flycatcher, Acadian (<i>Empidonax virescens</i>)	Bird	Endangered	X	3	Affected by habitat loss and degradation but at northern extent of breeding range. Widespread and common in the eastern United States.
Grouse, Sage (<i>Centrocercus urophasianus</i> <i>urophasianus</i>) (Prairie population)	Bird	Endangered			Subspecies. Given conditional designation as threatened in 1997; uplisted to endangered in 1998 based on a revised status report. Affected by habitat loss. See the British Columbia population of Sage Grouse (<i>Centrocercus urophasianus urophasio</i>) subspecies, which is listed as extirpated.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC’s list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Owl, Barn (Tyto alba) (Eastern population)	Bird	Endangered	X	1, 3	The Western population of Barn Owl (<i>Tyto alba</i>) is listed separately as vulnerable. At the northern extent of its range, the Barn Owl residing in Ontario is affected by a low tolerance for cold winters, and has extensive range in the United States.
Owl, Burrowing (<i>Speotyto cunicularia</i>)	Bird	Endangered			At northern extent of range, affected by habitat loss and fragmentation, predation, and pesticides.
Owl, Spotted (<i>Strix occidentalis</i>)	Bird	Endangered	X	3	Northern extent of range, which extends down the Pacific coast to Mexico. Affected by loss of its old-growth habitat.
Plover, Mountain (<i>Charadrius montanus</i>) (East and prairies population)	Bird	Endangered	X	1, 3	Specific population. Affected by overhunting until 1900. At northern extent of range and never common in Canada; abundant range in the United States.
Plover, Piping (<i>Charadrius melodus</i>)	Bird	Endangered			Affected by habitat destruction and human disruption; it is a beach-dwelling shorebird.
Rail, King (<i>Rallus elegans</i>)	Bird	Endangered			Designated as rare in 1985, uplisted to endangered in 1994. Affected by habitat loss, degradation, and fragmentation but at the northern extent of breeding range in southern Ontario, although declines have also been reported across the northern and midwestern United States.
Shrike, Loggerhead (<i>Lanius ludovicianus migrans</i>) (Eastern population)	Bird	Endangered			Subspecies and specific population. Considered one population and designated as threatened in 1986, Eastern subspecies of Loggerhead Shrike (<i>Lanius ludovicianus migrans</i>) uplisted to endangered in 1991, while the Prairie subspecies (<i>Lanius ludovicianus excubiorides</i>) is listed separately as threatened. Affected by habitat loss, pesticides, human disruption. Canada is the northern extent of its range but it is also At Risk in the United States.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Sparrow, Henslow's (<i>Ammodramus henslowii</i>)	Bird	Endangered	X	3	Designated as threatened in 1984, uplisted to endangered in 1993. At the northern extent of its range: "no more than one to three breeding pairs of Henslow's sparrow have been documented since 1991 in southern Ontario, which marks the northern limit of its breeding range" <i>Renew</i> 1996/97: 7. "Henslow's Sparrow probably expanded its range into Ontario during the early decades of the twentieth century, following the clearing of forests. It is unclear whether the species bred in the province prior to settlement (Knapton 1982)" (Austen and Cadman 1993:1). Abundant range in the United States and not at risk in several states.
Tern, Roseate (<i>Sterna dougallii</i>)	Bird	Endangered			At the northern extent of its range in Canada; affected by predation by gulls at its breeding grounds and human disruption at its wintering grounds. The Roseate Tern (<i>Sterna dougallii</i>) was overhunted during the plume trade from 1876 to 1888.
Thrasher, Sage (<i>Oreoscoptes montanus</i>)	Bird	Endangered	X	3	Small population at northern extent of range. "Historical populations (pre-1920) in British Columbia may have been as high as 30 pairs but since 1980 only 5 to 10 pairs (Cannings 1992: 1). Inhabitant of the South Okanagan Ecosystem.
Warbler, Kirtland's (<i>Dendroica kirtlandii</i>)	Bird	Endangered			"In Canada, there have been no confirmed breeding records for Kirtland's warbler since the 1970s . . . The warbler is now known to breed only in Michigan" (<i>Renew 1996/97: 7</i>).
Warbler, Prothonotary (<i>Protonotaria citrea</i>)	Bird	Endangered			Limited habitat at the northern extent of its range, there has been a range-wide decline in numbers due to lack of suitable habitat and competition for nest sites.
Frog, Northern Cricket (<i>Acris crepitans</i>)	Amphibian	Endangered	X	3	Formerly listed as Blanchard's Cricket Frog (<i>Acris crepitans blanchardi</i>). Rare in Canada but widespread in United States. Affected by habitat loss and predation.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Frog, Northern Leopard (<i>Rana pipiens</i>) (Southern Mountain populations)	Amphibian	Endangered	X	1	The Prairie population of Northern Leopard Frog (<i>Rana pipiens</i>) is separately listed as Vulnerable. The species should not be listed twice.
Snake, Blue Racer (<i>Coluber constrictor foxii</i>)	Reptile	Endangered	X	2, 3	Subspecies. Northernmost extent of its range and not at risk in the United States. Affected by habitat succession and increased development and tourism.
Snake, Lake Erie Water (<i>Nerodia sipedon insularum</i>)	Reptile	Endangered	X	2	Subspecies. Limited range; rare subspecies. Affected by habitat loss and human activity. Apparently, the island subspecies is vulnerable to "genetic swamping" by emigrating mainland water snakes.
Snake, Sharp-tailed (<i>Contia tenuis</i>)	Reptile	Endangered	X	3	At northern extent of range. May be affected by loss of old-growth Douglas fir but abundant in California and Oregon.
Turtle, Leatherback (<i>Dermochelys coriacea</i>)	Reptile	Endangered			Affected by pollution, entanglement in fishermen's nets, and natural predation of nesting sites. Northernmost extent of range, but Listed in Appendix I of the Convention on International Trade in Endangered Species (CITES), to which Canada is a signatory nation.
Dace, Nooksack (<i>Rhinichthys</i> sp.)	Fish	Endangered			Affected by habitat loss and degradation, but species is widespread throughout Washington.
Sucker, Salish (<i>Catostomus</i> sp.)	Fish	Endangered			Affected by habitat loss; limited range.
Trout, Aurora (<i>Salvelinus fontinalis timagamiensis</i>)	Fish	Endangered			Subspecies. Affected by habitat degradation; only surviving stocks are being maintained through hatcheries.
Whitefish, Atlantic (<i>Coregonus huntsmani</i>)	Fish	Endangered			Affected by habitat loss due to dam-building, overfishing, and habitat degradation due to acidification of rivers and watershed. A "uniquely Canadian species found only in southern Nova Scotia" (Edge 1984: 1)
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Bean, Rayed (<i>Villosa fabalis</i>)	Mollusk	Endangered			
Lampmussel, Wavy-rayed (<i>Lampsilis fasciola</i>)	Mollusk	Endangered			
Physa, Hotwater (<i>Physella wrighti</i>)	Mollusk	Endangered			
Riffleshell, Northern (<i>Epioblasma torulosa rangiana</i>)	Mollusk	Endangered			Subspecies.
Butterfly, Maritime Ringlet (<i>Coenonympha tullia nipisquit</i>)	Lepidoptera	Endangered	X	2	Subspecies. Affected by habitat degradation and human encroachment within a limited habitat.
Agalinis, Gattinger's (<i>Agalinis gattingeris</i>)	Plant	Endangered	X	3	Northern extent of range; abundant range in the United States but not overly common.
Agalinis, Skinner's (<i>Agalinis skinneriana</i>)	Plant	Endangered	X	3	Northern extent of range; abundant range in the United States but not overly common. Possibly a "waning species" that is naturally in decline.
Ammannia, Scarlet (<i>Ammannia robusta</i>)	Plant	Endangered			
Avens, Eastern Mountain (<i>Geum peckii</i>)	Plant	Endangered			Limited distribution affected by expanding gull colony and development.
Bluehearts (<i>Buchnera americana</i>)	Plant	Endangered	X	3	At northern extent of range; population is isolated from main ranges in the United States.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Balsamroot, Deltoid (<i>Balsamorhiza deltoidea</i>)	Plant	Endangered			At northern extent of range; affected by development and competition by introduced species.
Braya, Long's (<i>Braya longii</i>)	Plant	Endangered			
Buttercup, Water-plantain (<i>Ranunculus alismaefolius</i> var. <i>alsimaefolius</i>)	Plant	Endangered	X	2, 3	Subspecies. At northern extent of range; affected by habitat loss and degradation and by competition with introduced species. Abundant populations in the United States.
Cactus, Eastern Prickly Pear (<i>Opuntia humifusa</i>)	Plant	Endangered	X	3	At northern extent of range; threatened by people trampling, digging, and removing plants. It is also threatened by natural forest succession because it does not thrive in shade.
Clover, Bearded Owl (<i>Triphysaria versicolor</i> ssp. <i>versicolor</i>)	Plant	Endangered	X	2	Subspecies.
Clover, Slender Bush (<i>Lespedeza virginica</i>)	Plant	Endangered	X	3	Single, small population in an urban area in Canada at the northern extent of its range. Common in the United States where its range extends from central and eastern United States down to Texas and northern Florida.
Coreopsis, Pink (<i>Coreopsis rosea</i>)	Plant	Endangered			Northern extent of its range and threatened by cottage development. Rare in the United States as well.
Cryptanthe, Tiny (<i>Cryptantha minima</i>)	Plant	Endangered			
Fern, Southern Maidenhair (<i>Adiantum capillus-veneris</i>)	Plant	Endangered	X	3	Northern extent of range; common across southern United States and into the tropics.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Gentian, White Prairie (<i>Gentiana alba</i>)	Plant	Endangered	X	3	Isolated population in Canada; abundant range throughout United States but uncommon and affected by hybridization.
Ginseng, American (<i>Panax quinquefolium</i>)	Plant	Endangered			Threatened by overharvest of roots for international sale. It will soon be listed and protected from international trade under CITES.
Goldenrod, Showy (<i>Solidago speciosa</i> var. <i>rigidiuscula</i>)	Plant	Endangered	X	2	Subspecies.
Lady's Slipper, Small White (<i>Cypripedium candidum</i>)	Plant	Endangered	X	3	Extreme northern extent of range; more range and more common in the United States but some state protection is in effect.
Lotus, Seaside Birds-foot (<i>Lotus formosissimus</i>)	Plant	Endangered	X	3	Disjunct population on Vancouver Island is at risk from habitat loss; main range extends down the west coast of North America to California.
Lousewort, Furbish's (<i>Pedicularis furbishiae</i>)	Plant	Endangered			Known population in Canada and United States totals 1,115 plants. Their limited habitat may be affected by the planned construction of a hydroelectric dam in New Brunswick.
Lupine, Prairie (<i>Lupinus lepidus</i> var. <i>lepidus</i>)	Plant	Endangered	X	2, 3	Subspecies. Affected by habitat loss and degradation, and competition from introduced species within a limited range. Northern extent of range, and common in Washington and Oregon.
Milkwort, Pink (<i>Polygala incarnata</i>)	Plant	Endangered			Affected by habitat loss to agriculture; at the northern extent of range. Extensive range in the United States but some state listings.
Mint, Hoary Mountain (<i>Pycnanthemum incanum</i>)	Plant	Endangered	X	3	Affected by human disturbance; widespread throughout eastern United States.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Mouse-ear cress, Slender (<i>Halimolobos virgata</i>)	Plant	Endangered			Affected by habitat loss and competition from invasive weeds. Northern extent of range; affected by grazing and fire control. Rare in the United States.
Mulberry, Red (<i>Morus rubra</i>)	Plant	Endangered	X	3	At northern extent of range; affected by "genetic swamping" by White Mulberry.
Orchid, Western Prairie White Fringed (<i>Platanthera praeclara</i>)	Plant	Endangered			Divided into subspecies in 1986; the Eastern Prairie White Fringed Orchid is listed separately as Vulnerable. Affected by habitat loss and at risk in the United States.
Plantain, Heart-leaved (<i>Plantago cordata</i>)	Plant	Endangered			Affected by habitat degradation and destruction and a lack of adaptability; rare throughout North America.
Pogonia, Large Whorled (<i>Isotria verticillata</i>)	Plant	Endangered	X	3	Northern extent of range; mainly located from Florida to New England and Michigan. Common in parts of its American range.
Pogonia, Nodding (<i>Triphora trianthophora</i>)	Plant	Endangered	X	3	Northern extent of extensive range from Maine to the Gulf of Mexico. Affected in Canada by livestock grazing and by habitat degradation and loss.
Pogonia, Small Whorled (<i>Isotria medeoloides</i>)	Plant	Endangered			Affected by habitat loss to urbanization and development. Northern extent of range; mainly located from Florida to New England and Michigan but at risk in United States. Considered to be "the rarest orchid in the northeastern United States and Canada" (Brownell 1982: 1))
Poppy, Wood (<i>Stylphorum diphyllum</i>)	Plant	Endangered	X	3	A small population was deliberately transplanted to Canada, the extreme northern extent of its range. The species is not at all threatened globally. In Canada, existing plants are threatened by habitat alteration and by gardeners wanting to transplant specimens to their gardens.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Quillwort, Engelmann's (<i>Isoetes engelmannii</i>)	Plant	Endangered	X	3	Affected by habitat loss but at northern extent of range; relatively abundant in the United States and not listed there.
Sedge, Juniper (<i>Carex juniperorum</i>)	Plant	Endangered			
Sundew, Thread-leaved (<i>Drosera filiformis</i>)	Plant	Endangered	X	3	Northern extent of range, which extends down to Florida and the Gulf of Mexico. Known only recently to exist in southwestern Nova Scotia.
Thistle, Pitcher's (<i>Cirsium pitcheri</i>)	Plant	Endangered			Endemic to sand dune; at risk from recreational use of dunes and natural predation by the Plume Moth Larva.
Toothcup (<i>Rotala ramosior</i>)	Plant	Endangered			
Tree, Cucumber (<i>Magnolia acuminata</i>)	Plant	Endangered			Affected by habitat loss to agriculture; at the northern extent of range but also at risk in the United States.
Trillium, Drooping (<i>Trillium flexipes</i>)	Plant	Endangered			Affected by disturbance from recreational activities; at risk in some states.
Twayblade, Purple (<i>Liparis liliifolia</i>)	Plant	Endangered	X	3	Northern extent of range; common across eastern and midwestern United States. Threatened by increased succession of second growth woods as the species will not tolerate dense shade.
Wintergreen, Spotted (<i>Chimaphila maculata</i>)	Plant	Endangered	X	3	Affected by habitat loss but at northern extent of range; abundant range in United States.
Seaside Centipede (<i>Heterodermia stitchensis</i>)	Lichen	Endangered			Endemic to west coast of Vancouver Island only; highly restricted habitat requirements.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Bison, Wood (<i>Bison bison athabascae</i>)	Mammal	Threatened			Subspecies: designated as endangered in 1978, down-listed to threatened in 1988. It was affected by over-hunting, hybridization, and tuberculosis but is now recovering in several, separate populations (kept geographically separate to prevent "genetic swamping") that have reached optimum level. It should soon be removed from the list as populations have now reached havestable numbers. It was recently removed from the CITES list because of the potential benefits of its sustainable use.
Caribou, Peary (<i>Rangifer tarandus pearyi</i>) (Low Arctic population)	Mammal	Threatened	X	1	See High Arctic population listed as endangered.
Caribou, Woodland (<i>Rangifer tarandus caribou</i>) (Gaspé population)	Mammal	Threatened	X	1, 4	The Western population of Woodland Caribou (<i>Rangifer tarandus caribou</i>) is listed separately as Vulnerable; the Gaspé population is a subspecies and a specific population; this is probably an anomalous population that should not be indigenous to Gaspé. There are over 400,000 Woodland Caribou in Canada.
Mole, Townsend's (<i>Scapanus townsendii</i>)	Mammal	Threatened	X	3	Affected by habitat loss but widespread and abundant throughout western North America. Not at risk in Oregon or Washington and not considered "Wildlife" but a vermin nuisance species. Affected by population growth of humans in the Fraser Valley.
Otter, Sea (<i>Enhydra lutris</i>)	Mammal	Threatened			Designated as endangered in 1978, confirmed as endangered in 1986, downlisted to threatened in 1996. Affected by oil spills, fisheries conflicts, and predation, and recovering from fur hunting. Range extends around northern edge of Pacific rim.
Porpoise, Harbour (<i>Phocoena phocoena</i>) (Northwest Atlantic population)	Mammal	Threatened	X	1	Specific population. Designated threatened in 1990, confirmed as endangered in 1986, downlisted to threatened in 1996. Affected by entanglement in fishing nets.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Shrew, Pacific Water (<i>Sorex bendirii</i>)	Mammal	Threatened			Affected by habitat loss and fragmentation by the urban sprawl of Vancouver, British Columbia. Small populations exist in the Pacific Northwest region of the United States.
Whale, Humpback (<i>Megaptera novaeangliae</i>) (North Pacific population)	Mammal	Threatened			Specific population. West Atlantic population of Humpback Whale (<i>Megaptera novaeangliae</i>) listed separately as vulnerable. Recovering from whaling and affected by limited numbers and human disturbances.
Whale, White (Beluga) (<i>Delphinapterus leucas</i>) (Eastern Hudson Bay population)	Mammal	Threatened	X	1	See Ungava Bay population of White (Beluga) Whale (<i>Delphinapterus leucas</i>), listed separately as "endangered." Recovering from past overwhaling.
Whale, Killer (<i>Orcinus orca</i>) ("Resident" Pacific populations)	Mammal	Threatened	X	1, 4	Specific population, "resident" along the Pacific coast of British Columbia; "transient" and "offshore" populations of Killer Whales (<i>Orcinus orca</i>) are found in every ocean of the world.
Chat, Yellow-breasted (<i>Icteria virens auricollis</i>) (British Columbia population)	Bird	Threatened	X	1, 2	Subspecies and specific population. Affected by habitat loss and at northern limit of breeding range. Part of the South Okanagan Ecosystem. The Eastern population is listed separately as Vulnerable and the Prairie population is considered to be Not at Risk.
Falcon, Anatum Peregrine (<i>Falco peregrinus anatum</i>)	Bird	Threatened	X	4	The population of Anatum Peregrine Falcon was affected by pesticides (DDT) and overcapture by falconers. COSEWIC changed its category from Endangered to Threatened in 1999. It should be deleted from COSEWIC's list because DDT is no longer a threat, American populations have recovered and been de-listed, and it is protected from trade by CITES.
Murrelet, Marbled (<i>Brachyramphus marmoratus</i>)	Bird	Threatened	X	4	Nests in old-growth forests on the Pacific coast so its habitat is considered to be in danger. Little is known about how adaptable the Marbled Murrelet is to changes in habitat. Population is thought to be 45,000.
Pipit, Sprague's (<i>Anthus spragueii</i>)	Bird	Threatened			

X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.

Species	Class	Category	Delete	Reason	Comments
Shrike, Loggerhead (<i>Lanius ludovicianus excubitorides</i>) (Prairie population)	Bird	Threatened	X	1, 2, 3	Subspecies and specific population. At northern extent of range and affected by habitat loss, pesticides, human disruption, and climate. Declining numbers over the last 25 years. Considered to be one population in 1986; divided into two in 1991 when the Eastern population was upgraded to Endangered. See Loggerhead Shrike Eastern population on the Endangered list. The Loggerhead Shrike should be listed but not twice.
Warbler, Hooded (<i>Wilsonia citrina</i>)	Bird	Threatened	X	3	At northern extent of range; affected by habitat loss. Secure through most of range.
Woodpecker, White-headed (<i>Picoides albolarvatus</i>)	Bird	Threatened			Affected by habitat loss and degradation in the South Okanagan ecosystem. Small population at northern extent of range but considered rare in nine out of ten resident states.
Rattlesnake, Eastern Massasauga (<i>Sistrurus catenatus catenatus</i>)	Reptile	Threatened	X	2	Subspecies. Limited range and affected by human disruption.
Snake, Black Rat (<i>Elaphe obsoleta obsoleta</i>)	Reptile	Threatened	X	2	Subspecies.
Snake, Eastern Fox (<i>Elaphe vulpina gloydi</i>)	Reptile	Threatened	X	2	Subspecies.
Snake, Queen (<i>Regina septemvittata</i>)	Reptile	Threatened			
Toad, Fowler's (<i>Bufo fowleri</i>)	Reptile	Threatened			Designated rare in 1986; transferred to the vulnerable category when the former was replaced in 1990.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Turtle, Blanding's (<i>Emydoidea blandingi</i>) (Nova Scotia population)	Reptile	Threatened	X	1	Specific population. Affected by raccoon preying upon its nests. Nova Scotia population is disjunct from main range in Great Lakes area.
Turtle, Spiny Softshell (<i>Apalone spinifera</i>)	Reptile	Threatened			Affected by habitat degradation and pollution, and vandalism by humans.
Cisco, Blackfin (<i>Coregonus nigripinnis</i>)	Fish	Threatened			Affected by overfishing and habitat degradation. Extirpated over much of its range.
Cisco, Shortjaw (<i>Coregonus zenithicus</i>)	Fish	Threatened			Affected by overfishing and habitat degradation, and predation by introduced species.
Cisco, Shortnose (<i>Coregonus reighardi</i>)	Fish	Threatened			Affected by overfishing and habitat degradation; recently disappeared from its historic Great Lakes range.
Darter, Channel (<i>Percina copelandi</i>)	Fish	Threatened			At northern extent of range; affected by sedimentation but wide-spread range in the United States.
Darter, Eastern Sand (<i>Ammocrypta pellucida</i>)	Fish	Threatened			At northern extent of range but at risk in the United States; affected by siltation and habitat degradation by land-use practices.
Lamprey, Morrison Creek (<i>Lampetra richardsoni</i>)	Fish	Threatened			
Madtom, Margined (<i>Noturus insignis</i>)	Fish	Threatened	X	3	Anomalous population located at the extreme northern extent of range. Probably introduced by anglers; range throughout Mississippi River basin.
Redhorse, Black (<i>Moxostoma duquesnei</i>)	Fish	Threatened			Affected by habitat loss to dam-building. Restricted Canadian range.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Redhorse, Copper (<i>Moxostoma hubbsi</i>)	Fish	Threatened			Affected by habitat degradation and pollution. Rare throughout range.
Sculpin, Great Lakes Deepwater (<i>Myoxocephalus thompsoni</i>)	Fish	Threatened	X	1	Other abundant populations; disappearance from Great Lakes due to pollution and habitat degradation, and predation.
Sculpin, Shorthead (<i>Cottus confusus</i>)	Fish	Threatened			Restricted distribution and potential habitat degradation.
Smelt, Lake Utopia Dwarf (<i>Osmerus</i> sp.)	Fish	Threatened			
Stickleback, Paxton Lake (limnetic) (<i>Gasterosteus</i> sp.)	Fish	Threatened			
Stickleback, Paxton Lake (benthic) (<i>Gasterosteus</i> sp.)	Fish	Threatened	X	1	It is unnecessary to list both the benthic (deep-water) and limnetic (shallow-water) Paxton Lake Sticklebacks.
Stickleback, Vananda (limnetic) (<i>Gasterosteus</i> spp.)	Fish	Threatened			
Stickleback, Vananda (benthic) (<i>Gasterosteus</i> spp.)	Fish	Threatened	X	1	It is unnecessary to list both the benthic (deep-water) and limnetic (shallow-water) Vananda Sticklebacks.
Sticklebacks, Enos Lake (<i>Gasterosteus</i> spp. [2 spp.])	Fish	Threatened			Habitat degradation from urban sprawl and predation.
Whitefish, Lake Simcoe (<i>Coregonus clupeaformis</i>)	Fish	Threatened			Habitat degradation and pollution; agricultural runoff and sewage disposal, and predation by introduced rainbow smelt.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Abalone, Northern (<i>Haliotis kamtschatkana</i>)	Mollusk	Threatened			The fishery was closed in 1990 but the species continues to be affected by poaching.
Snail, Banff Springs (<i>Physella johnsoni</i>)	Mollusk	Threatened			
Ash, Blue (<i>Fraxinus quadrangulata</i>)	Plant	Threatened	X	3	Affected by habitat loss due to development and stone quarrying in Canada but at northern extent of range. Main range is the central United States.
Aster, Anticosti (<i>Aster anticostensis</i>)	Plant	Threatened			At the northern extent of a limited range, endemic to maritimes. Affected by land development and human recreation; rare in the United States.
Aster, White-top (<i>Aster curtus</i>)	Plant	Threatened	X	3	Introduced species at northern extent of range.
Aster, White Wood (<i>Aster divaricatus</i>)	Plant	Threatened	X	3	At the northern extent of range but abundant range throughout the United States.
Braya, Fernald's (<i>Braya fernaldii</i>)	Plant	Threatened			
Chestnut, American (<i>Castanea dentata</i>)	Plant	Threatened			At the northern extent of its range but suffering from blight here and throughout the United States.
Colicroot (<i>Aletris farinosa</i>)	Plant	Threatened			At the northern extent of range; abundant range in the United States.
Deerberry (<i>Vaccinium stamineum</i>)	Plant	Threatened	X	3	Isolated population at the northern extent of its range; abundant throughout the United States. Affected by lack of seedling production.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Fern, Mosquito (<i>Azolla mexicana</i>)	Plant	Threatened			Isolated population at its extreme northern extent with a narrow range of growth requirements.
Flag, Western Blue (<i>Iris missouriensis</i>)	Plant	Threatened	X	3	Northern extent of range; at risk from habitat degradation through the conversion of wet meadow habitats to non-native plants. Abundant in parts of western United States.
Gentian, Plymouth (<i>Sabatia kennedyana</i>)	Plant	Threatened			Northern extent of range; small populations exist along the eastern seaboard.
Goat's-rue (<i>Tephrosia virginiana</i>)	Plant	Threatened			At the northern extent of range but abundant range throughout the United States. Affected by high seed predation and habitat degradation.
Golden Crest (<i>Lophiola aurea</i>)	Plant	Threatened			Northern extent of range, which extends down to Florida coast. At risk from habitat loss to cottage development.
Golden Seal (<i>Hydrastis canadensis</i>)	Plant	Threatened			Northern extent of range. Wide range, but rare, in the eastern United States. Affected by logging and land clearing.
Greenbrier, Round-leaved (<i>Smilax rotundifolia</i>) (Ontario population)	Plant	Threatened	X	3	Specific population located at the northern extent of a range covering most of the central and northeastern United States.
Jacob's Ladder, van Brunt's (<i>Polemonium van-bruntiae</i>)	Plant	Threatened			Isolated population at the northern extent of its range; affected by habitat loss to agricultural expansion and road-building.
Lipocarpha, Small-flowered (<i>Lipocarpha micrantha</i>)	Plant	Threatened	X	3	Northern extent of range; disjunct population in Canada. Range extends south to Brazil.
Paintbrush, Golden (<i>Castilleja levisecta</i>)	Plant	Threatened	X	3	An introduced species with limited range in the United States as well.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Pepperbush, Sweet (<i>Clethra alnifolia</i>)	Plant	Threatened	X	3	Disjunct population in southwest Nova Scotia was probably introduced from Europe. Main range extends from Texas to Florida and north to southern Maine.
Prairie-clover, Hairy (<i>Dalea villosa</i> var. <i>villosa</i>)	Plant	Threatened	X	2	Subspecies.
Redroot (<i>Lachnanthes caroliniana</i>)	Plant	Threatened	X	3	Isolated population in Nova Scotia. Populations are found disjunctly down eastern seaboard. Main range is in Florida and Cuba. At risk from development of shoreline.
Sedge, False Hop (<i>Carex lupuliformis</i>)	Plant	Threatened	X	3	Isolated populations at northern extent of range. Abundant range throughout the United States.
Spiderwort, Western (<i>Tradescantia occidentalis</i>)	Plant	Threatened			Northern extent of a limited range. Affected by habitat degradation, invasive weeds, fire, and cattle grazing in Canada.
Tree, Kentucky Coffee (<i>Gymnocladus dioica</i>)	Plant	Threatened			Affected by habitat loss to agriculture. At the northern extent of range but threatened throughout.
Verbena, Sand (<i>Abronia micrantha</i>)	Plant	Threatened	X	3	Northern extent of range. Affected by habitat degradation, fire, and cattle grazing in Canada; abundant range in the United States.
Violet, Bird's-foot (<i>Viola pedata</i>)	Plant	Threatened	X	3	Northern extent of range; abundant range throughout the United States.
Violet, Yellow Montane (<i>Viola praemorsa</i> ssp. <i>praemorsa</i>)	Plant	Threatened	X	2, 3	Subspecies. Northern extent of range. Affected by habitat loss but throughout United States, taken as species, demonstrably secure.
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					

Species	Class	Category	Delete	Reason	Comments
Water-willow, American (<i>Justicia americana</i>)	Plant	Threatened	X	3	Northern extent of range; widespread in the eastern and central United States. Threatened by potential habitat loss.
Woodsia, Blunt-lobed (<i>Woodsia obtusa</i>)	Plant	Threatened	X	3	Small population but at northern extent of range; abundant throughout the United States.
Water-pennywort (<i>Hydrocotyle umbellata</i>)	Plant	Threatened	X	3	Extreme northern extent of range. Disjunct population. Mostly found in southern United States and South America.
Moss, Apple (<i>Bartramia stricta</i>)	Moss	Threatened			
<p>X in the fourth column indicates that this entry should be deleted from COSEWIC's list; numbers in the fifth column give the reason: 1. distinct population listing (in many cases, the species appears more than once on the COSEWIC list); 2. listing is a subspecies; 3. northernmost range in Canada (species thought to be at their northernmost range in Canada but rare in the United States remain on the list); 4. species is abundant.</p>					



Appendix B: List of Conservation Groups and Contacts

This list gives a selection of conservation groups and contacts in Canada. The inclusion of a group in the list does not imply endorsement by The Fraser Institute.

Alberta Birds of Prey Foundation

Box 1150, Coaldale, AB T1M 1M9
Tel: (403) 345-4262; Fax: (430) 345-6668
Web site: www.AlbertaBirds.org

Alberta Ecotrust Foundation

102, 725 12 Ave. SW, Calgary, AB T2R 0H9
Tel: (403) 209-2245; Fax: (403) 209-2086
Web site: www.alberta.com/web/ecotrust

Alberta Fish & Game Association

6924 104 Street, Edmonton, AB T6H 2L7
Tel: (780) 437-2342; Fax: (780) 438-6872
email: office@afga.org

Alberta Lake Management Society

CW 405, Biological Sciences Centre,
Edmonton, AB T6G 2E9
Tel: (780) 492-1294; Fax: (780) 492-9234
Web site: www.biology.ualberta.ca/alms/home.htm

Alberta Wilderness Association

105 Spray Drive, Harvie Heights, AB T1W 2W2
Tel: (403) 609-2509; Fax: (403) 609-2509
email: y2yconf@telusplanet.net

Aquatic Conservation Network Inc.

PO Box 67011, Westboro R.P.O., Ottawa, ON K2A 4E4
Tel: (613) 729-4670; Fax: (613) 729-5613
Web site: www.can.ca/index.html

Baillie Birdathon

For information contact:
Tel: (519) 586-3531; Fax: (519) 586-3532
email: brdathon@nornet.on.ca

Battleford Trail Surface Rights Association

RR2, Camrose, AB T4V 2N1
Tel: (780) 672-7341

Biosphere Institute of the Bow Valley

12, 801 8 Street, Canmore, AB T1W 2B3

Tel: (403) 678-3445; Fax: (403) 678-0785

Web site: www.expertcanmore.net

Bird Studies Canada/Études d'Oiseaux Canada

PO Box 160, Port Rowan, ON N0E 1M0
Tel: (888) 448-BIRD; Fax: (519) 586-3532
Web site: www.bsc-eoc/bscmain.html

Blomidon Naturalists Society

PO Box 127, Wolfville, NS B0P 1X0
Web site: www.go.ednet.ns.ca/~bns/home.htm

Bluenose ACAP

493 Main, Mahone Bay, NS B0N 2H0
Tel: (902) 624-9888
Web site: www.ns.ec.gc.ca/acap/bluenose_atlantic.html

British Columbia Conservation Foundation

206, 17564 56A Ave., Surrey, BC V3S 1G3
Tel: (604) 576-1433; Fax: (604) 576-1482
Web site: www.bccf.com

British Columbia Watershed Stewardship Alliance

3360 West 53rd Ave., Vancouver, BC V6N 4C9
Tel: (604) 261-3554; Fax: (604) 261-3514
Web site: www.scrn.org/bcwsa/

British Columbia Wetlands Network

c/o Friends of Boundary Bay,
PO Box 1441, Station A, Delta, BC V4M 3Y8
Tel: (604) 940-1540; Fax: (604) 940-9833
Web site: www.bcwetlands.com

British Columbia Wildlife Federation

303, 19292 60th Ave., Surrey, BC V3S 8E5
Tel: (604) 533-2293; Fax: (604) 533-1592
Web site: www.bcdf.bc.ca

British Columbia Lake Stewardship Society

3333 College Way, Kelowna, BC V1V 1V7
Tel: 1-877-225-2537 (1-877-BCLAKES)
Web site: www.scrn.org/bclss

- Canadian Wildlife Federation
2740 Queensview Drive
Ottawa, ON K2B 1A2
Tel: 800-563-WILD; Fax: (613) 721-2902
Web site: www.cwf-fcf.org
- Chignecto Naturalists' Club
Box 1590, Sackville, NB E0A 3C0
Tel: (506) 536-0454
Web site: www.tap.nb.ca/chignecto/
- Clean Annapolis River Project
P.O. Box 395, Annapolis Royal, NS B0S 1A0
Tel: (902) 532-7533; Fax: (902) 678-1253
Web site: fox.nstn.ca
- Coastal Ecosystem Research Foundation
2648 Tennis Cr., Vancouver, BC V6T 2E1
Tel: (604) 224-472; Fax: (815) 327-0183
Web site: <http://cerf.bc.ca/index.asp>
- Commission for Environmental Cooperation
393 rue St. Jacques, ouest, Bureau 200,
Montreal, QC H2Y 1N9
Tel: (514) 350-4300; Fax: (514) 350-4314
Web site: www.cec.org
- Corporation du Bassin Versant Ruisseau Saint-Esprit
166 rue St-Jacques, St-Jacques, QC J0K 2R0
Tel: (514) 839-9190; Fax: (514) 839-3036
- Ducks Unlimited Canada (National Headquarters)
PO Box 1160, Stonewall,
Oak Hammock Marsh, MB R0C 2Z0
Tel: (204) 467-3000; Fax: (204) 467-9028
Web site: www.ducks.ca
- Delta Waterfowl Foundation (Canadian Head Office)
R.R. 1, Box 1, Portage la Prairie, MB R1N 3A1
Tel: (204) 239-1900
email: dw4ducks@portage.net
- Eastern Mainland Field Naturalists
c/o Randy Lauff, Department of Biology
Saint Francis Xavier University, Antigonish, NS B2G 2W5
email: rlauff@stfx.ca
- Eastern Slopes Grizzly Bear Project ESGBP Outreach
c/o Faculty of Environmental Design
University of Calgary, Calgary, AB T2N 1N4
Tel: (403) 220-7436; Fax: (403) 284-4399
Web site: www.canadianrockies.net/grizzly/index.html
- Edmonton Bird Club
Box 1111, Edmonton, AB T5J 2M1
Tel: (780) 427-8124; Fax: (780) 422-2663
Web site: www.connect.ab.ca/~fan/fa02008.htm
- Environment Probe
225 Brunswick Avenue, Toronto, ON M5S 2M6
Tel: (416) 964-9223 ext. 232; Fax: (416) 964-8239
email: ElizabethBrubaker@nextcity.com
Web site: www.nextcity.com/environmentprobe
- Evergreen Foundation
106 – 163 West Hastings, Vancouver, BC V6B 1H5
Tel: (604) 689-0766; Fax: (604) 689-0768
Web site: www.evergreen.ca
- Farm Woodlot Association of Saskatchewan
216 Main Street, Box 309, Spiritwood, SK S0J 2M0
Tel: (306) 883-2204; Fax: (306) 883-3445
email: fwas@sk.sympatico.ca
- Federation of Alberta Naturalists (FAN)
PO Box 1472, Edmonton, AB T5J 2N5
Tel: (780) 427-8124
Fax: (780) 422-2663
Web site: www.connect.ab.ca/~fan
- Federation of Ontario Nationalists (FON)
355 Lesmill Road, Don Mills, ON M3B 2W8
Tel: (416) 444-8419; Fax: (416) 444-9866
Toll-free: 1-800-440-2366
Web site: www.ontarionature.org
- FEESA, An Environmental Education Society
#1100, 10506 Jasper Avenue, Edmonton, AB T5J 2W9
Tel: (780) 421-1497; Fax: (780) 425-4506
Web site: www.telusplanet.net/public/feesa
- Friends of Kananaskis Country Cooperating Association
Suite 201, Provincial Building, 800 Railway Avenue
Canmore, AB T1W 1P1
Tel: (403) 678-5508; Fax: (403) 678-5505
Web site: www.gov.ab.ca/env/parks/prov_parks/kananaskis/friends/friends/html
- Greenspirit
4068 West 32nd Avenue, Vancouver, BC V6S 1Z6
Tel: (604) 221-1990; Fax: (604) 222-9353
Web site: greenspirit.com
- Home Place Conservancy Inc.
57 Malone Crescent, Regina, SK S4S 5J4
Tel: (306) 586-9268; Fax: (306) 586-4634
- International Marine Mammal Association Inc.
1474 Gordon Street, Guelph, ON N1L 1C8
Tel: (519) 767-1948; Fax: (519) 767-0284
Web site: www.imma.org
- Island Nature Trust
Mt. Edward Road, Charlottetown, PE C1A 7K4
Tel: (902) 566-9150; Fax: (902) 892-7513
Web site: www.peisland.com/nature/trust.htm
- Kawartha Fisheries Association
PO Box 125, Lindsay, ON K9V 4R8
Web site: www.scugog-net.com/kfa

Kitchener Waterloo Field Naturalists

317 Highland Road East, Kitchener, ON N2M 3W6
 Fax: (519) 893-2455
 Web site: www.sentex.net/~tntcomm/kwfn

LandOwner Resource Centre

PO Box 599, Manotick, ON K4M 1A5
 Tel: (613) 692-2390; Fax: (613) 692-2806
 Web site: www3.sympatico.ca/lrc/

Lac La Biche Birding Society

Box 1270, Lac La Biche, AB T0A 2C0
 Tel: (780) 623-3072
 Web site: www.sandnarrows.com/birdllb.html

Land Conservancy of British Columbia

5739 Old West Saanich Road, Victoria, BC V8X 3X3
 Tel: (250) 361-7693; Fax: (250) 744-2251
 Web site: www.conservancy.bc.ca

Land Stewardship Centre of Canada

Suite 1140 – 13 Mission Avenue, St. Albert, AB T8N 1H6
 Tel: (780) 458-5700; Fax: (780) 458-0312
 Web site: www.landstewardship.ab.ca

Manitoba Naturalists Society

401 – 63 Albert Street, Winnipeg, MB R3B 1G4
 Tel: (204) 943-9029
 Web site: www.wilds.mb.ca/mns

Manitoba Wildlife Federation

70 Stevenson, Winnipeg, MB R3H 0W7
 Tel: (204) 633-5967

Maritime Atlantic Wildlife

220 Cookville Road, Cookville, NB E4L 1Z8
 Tel: (506) 364-1902
 Web site: www.mawild.org

Miistakis Institute for the Rockies Inc.

c/o Biological Sciences, University of Calgary
 2500 University Drive NW, Calgary, AB T2N 1N4
 Tel: (403) 220-8968
 Web site: www.rockies.ca

Mount Tolmie Conservancy Association

3503 Camcrest Place, Victoria, BC V8P 4V6
 Tel: (250) 595-7270; Fax: (250) 592-9089
 Web site: www.geocities.com/RainForest/1234/

Nature Conservancy of Canada (National Office)

110 Eglinton Avenue, Suite 400, Toronto, ON M4R 1A3
 Tel: (416) 932-3202; Fax: (416) 932-3208
 Toll-free: 1-800-465-0029
 email: nature@natureconservancy.ca

Nature Saskatchewan

Room 206, 1860 Lorne Street, Regina, SK S4P 2L7
 Tel: (306) 780-9273; Fax: (306) 780-9263
 Web site: www.unibase.com/~nature/ecology.html

Nature Trust of British Columbia

100 Park Royal South, Suite 808,
 West Vancouver, BC V7T 1A2
 Tel: (604) 925-1128

Nature Trust of New Brunswick

PO Box 603, Station A, Fredericton, NB E3B 5A6
 Tel: (506) 457-2398; Fax: (506) 450-2137
 Web site: www.naturetrust.nb.ca

Nickel District Conservation Foundation

Lake Laurentian Conservation Area,
 200 Brady Street, First Floor,
 Tom Davies Square, Sudbury, ON P3E 5K3
 Tel: (705) 674-5249; Fax: (705) 674-7939
 Web site: www.ndcf.com

Nova Scotia Bird Society

1747 Summer Street, Halifax, NS B3H 3A6
 Web site: www.chebucto.ns.ca/Recreation/NS-BirdSoc

Nova Scotia Nature Trust

1657 Barrington, Halifax, NS B3J 2A1
 Tel: (902) 425-5263
 Web site: <http://reseau.chebucto.ns.ca/Environment/NSNT>

Oceans Blue Foundation

603 – 134 Abbott Street, Vancouver, BC V6B 2K4
 Tel: (604) 684-2583
 Web site: <http://www.oceansblue.com>

Ontario Federation of Anglers and Hunters

PO Box 2800, Peterborough, ON K9J 8L5
 Tel: (705) 748-6324
 Web site: www.ofah.org

Ontario Streams

17266 Old Main Street, Belfountain, ON L0N 1B0
 Tel: (519) 927-9725; Fax: (519) 927-3939
 Web site: www.ontariostreams.on.ca

Ottawa Field Naturalists Club

Box 35069, Westgate PO, Ottawa, ON K1Z 1A2
 Tel: (613) 722-3050; Fax: (613) 727-1739
 Web site: www.achilles.net/ofnc

Partners for the Saskatchewan River Basin

c/o Meewasin Valley Authority
 402 – 3rd Avenue South, Saskatoon, SK S7K 3G5
 Tel: (306) 665-6887; Fax: (306) 665-6117;
 Web site: www.saskriverbasin.ca

Ruiter Valley Land Trust Inc.

546 Turkey Hill, Sutton, QC J0E 1X0
 Tel: (450) 242-2878

Salmonid Association of Eastern Newfoundland Inc.

PO Box 29122, St. John's, NF A1A 5B5
 Tel: (709) 722-9300; Fax: (709) 722-9320
 Web site: www.saen.org

Saskatchewan Forestry Association

Box 400, 969 – 1st Avenue East,
Prince Albert, SK S6V 5R7
Tel: (306) 763–2189; Fax: (306) 764–7463
email: forestry@inet2000

Saskatchewan Wildlife Federation

444 River St. W, Moose Jaw, SK S6H 6J6
Tel: (306) 692–7772; Fax: (306) 692–8812
Web site: www.wdi.com/swf

The Saskatoon Nature Society

Box 448, RPO University, Saskatoon, SK S7N 4J8
Tel: (306) 665–1915
Web site: www.sfn.saskatoon.sk.ca/science/sns/

Soil and Water Conservation Society

Alberta SWCS, PO Box 45026, Lansdowne Postal Outlet
5124 – 122 Street, Edmonton, AB T6H 5Y1

Sustainable Development Technologies

Box 2233, Port Elgin, ON N0H 2C4
Tel: (519) 832–5852; Fax: (519) 932–2985
email: sdt1@swbi.net

Thunder Bay Field Naturalists

PO Box 10037, Thunder Bay, ON P7B 6T6
Tel: (807) 344–6511
Web site: www.baynet.net/~tbf/

Tree Canada Foundation

220 Laurier Avenue West, Suite 1550,
Ottawa, ON K1P 5Z9

Tel: (613) 567–5545; Fax: (613) 567–5270

Web site: www.treecanada.ca

Trout Unlimited Canada (National Office)

Box 6270, Station D, Calgary, AB T2P 2C8
Tel: (403) 221–8360; Toll Free: (800) 909–6040
email: tuc@cadvision.com

Wild Bird Trust of British Columbia

124 – 1489 Marine Drive,
West Vancouver, BC V7T 1B8
Tel: (604) 924–2581; Fax: (604) 922–8407

Web site: www.pesc.org/web_files/wbt/

Wildcare Wildlife Rehabilitation Centre (Ontario)

9788 Pine Valley Drive, RR 2,
Woodbridge, ON M2M 2M7
Tel: (905) 832–6957
email: kingfishertech@geocities.com

The Wildflower Society of Newfoundland and Labrador

c/o The MUN Botanical Garden
Memorial University of Newfoundland,
St. John's, NF A1C 5S7
Web site: www.ucs.mun.ca/~hclase/wf/

Wildlife Rehabilitation Society of Saskatchewan Inc.

2818 Sinton Avenue, Regina, SK S4S 1K3
Tel: (306) 584–2582

Wildlife Rescue Association of British Columbia

5216 Glencarin Drive, Burnaby, BC V5B 3C1
Tel: (604) 526–7275



Notes

- 1 One year after the Earth Summit in Rio de Janeiro, 168 countries signed the Framework Convention on Biological Diversity. Canada and 114 other countries have since ratified the convention. One of the articles of the Convention states that countries shall “develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations” (Bourdages, 1996: 2). In Canada, this has been interpreted by some to mean that honouring the commitment made at the Earth Summit in 1992 requires passing federal endangered species legislation. Others think that the treaty favours more direct and, thus, local management.
- 2 This is a distortion of the requirements of the Rio agreement, which really favours local and provincial management.
- 3 In reality, the United States itself is not a party to the Convention on Biological Diversity and its endangered-species legislation is viewed critically by many Americans, and its current funding and reauthorization is on a year-to-year basis.
- 4 The “rare” category was renamed “vulnerable” in 1990.
- 5 According to the Canadian Wildlife Service, if an Endangered Species Protection Act is passed in Canada, the legal list of wildlife species at risk will be based on COSEWIC designations (www.ec.gc.ca/cws-scf/focus.html).
- 6 Canada has fewer species than many tropical countries but contains many species specially adapted to cold climates as well as many free-ranging populations of large mammals such as polar bears, grizzly bears, caribou, and wolves.
- 7 The percentage is higher or lower for particular categories. For example, using COSEWIC’s estimates, 12 percent of known amphibians and reptiles are extirpated, endangered, or threatened while only 0.1 percent of the known molluscs are extirpated, endangered, or threatened.
- 8 The question of what constitutes a species is the topic of considerable debate within the scientific community. The widely accepted biological species concept (BSC) relies on reproductive capability. There are also less restrictive definitions. For example, the phylogenetic species concept (PSC) relies on distinct geographic development rather than member’s ability to interbreed. For more information, see Mayr 1996: 262–77; What is a “species”? (digital document: <http://research.amnh.org/ornithology/crossbills/species.html>; Boxhorn 1999.
- 9 The scientific definition of subspecies is: “A group of individuals within a species that breed more freely among themselves than with other member of the species and resemble each other in more characteristics. Reproductive isolation of a subspecies may become so extreme that a new species is formed (see *speciation*). Subspecies are sometime given a third Latin name, e.g. the mountain gorilla, *Gorilla gorilla beringei*” (Oxford Paperback Reference Concise Science Dictionary 1996: s.v. *subspecies*). See note 8 for further discussion.
- 10 It is easy to pick out the subspecies and distinct populations on COSEWIC’s list. Taxonomists, the biologists who classify plants and animals, give each type of organism a scientific name in Latin. The scientific name has two parts. Humans, for example, are *Homo sapiens*. Corn is *Zea mays*. The first part of the name is for the genus and the second part is the specific name that tells which species in a genus is being discussed. The genus name is capitalized, the species name is not. Names of subspecies, when used, follow the specific name and are also not capitalized.
- 11 In total, a review of the list reveals eight cases of species or subspecies being counted more than once. In seven of the eight cases, the listings were mammals, the category about which people tend to be most concerned.

- 12 Over 99 percent of the species that have ever existed have gone extinct. The five largest mass extinctions occurred during the late Ordovician period (about 438 million years ago); the late Devonian period (roughly 360 million years ago); the end of the Permian period (about 245 million years ago); the late Triassic period (208 million years ago); and at the Cretaceous-Tertiary boundary (about 65 million years ago).
- 13 This category should be recorded separately so that trends in extinctions can be tracked but the list of species “at risk” should not be inflated by species that are already extinct.
- 14 It may be desirable to keep a separate list of vulnerable species but, clearly, a species should not be on an “at risk” list until it is actually at risk.



References

- Allen, Gary M. (1989). Status Report on the Purple Twayblade *Liparis lilifolia* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Ambrose, John D. (1984). Status Report on the Kentucky Coffee Tree *Gymnocladus dioica* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1987). Status Report on the Red Mulberry *Morus rubra* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1994). Status Report on the Round-leaved Greenbrier *Smilax rotundifolia* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Ambrose, John D., and Steven W. Aboud (1983). Status Report on the Blue Ash *Fraxinus quadrangulata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1987). Status Report on the American Chestnut *Castanea dentata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Argus, George W., and Kathleen M. Pryer (1990). Rare Vascular Plants in Canada: Our Natural Heritage. Ottawa, ON: Canadian Museum of Nature.
- Austen, Madeline J.W., and Michael D. Cadman (1993). Status Report on the Henslow's Sparrow *Ammodramus henslowii* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Bourdages, Jean-Luc (1996). *Species at Risk in Canada*. Cat. No. YM32-2/417-1996-05E. Ottawa, ON: Minister of Supply and Services.
- Bowles, Jane M. (1996). Status Report on the Goat's Rue *Tephrosia virginiana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Bowles, Jane M., and Michael J. Oldham (1993). Status Report on the Wood-Poppy *Stylophorum diphyllum* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Boxhorn, Joseph (1999). Observed Instances of Speciation. Digital document: www.talkorigins.org/faqs/faq-speciation.html.
- Bromley, Marianne (1992). Status Report on the Tundra Peregrine Falcon *Falco peregrinus tundrius* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Brown, Gardner, and Jason Shogren (1998). Economics of the Endangered Species Act. *The Journal of Economic Perspectives* 12, 3 (Summer): 3–20.
- Brownell, Vivian R. (1981). Status Report on the Small White Lady's Slipper *Cypripedium candidum* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1982). Status Report on the Small Whorled Pogonia *Isotria medeoloides* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1984). Status Report on the Pink Milkwort *Polygala incarnata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1985a). Status Report on the Bluehearts *Buchnera americana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1985b). Status Report on the Heart-leaved Plantain *Plantago cordata* in Canada. Ottawa: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1986). Status Report on the Eastern Prairie White Fringed Orchid *Platanthera leucophaea*. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1984a). Status Report on the Giant Helleborine *Epipactis gigantea* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1984b). Status Report on the Mosquito Fern *Azolla mexicana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1984c). Status Report on the Southern Maidenhair Fern *Adiantum capillus-veneris* in Canada. Ottawa, ON:

- Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1992). Status Report on the Engelmann's Quillwort *Isoetes englemannii* A. Br. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Burnett, J.A., C.T. Dauphine Jr., S.H. McCrindle, and T. Mosquin (1989). *On the Brink: Endangered Species in Canada*. Saskatoon, SK: Western Producer Prairie Books.
- Burton, John A. (ed.) (1991). *The Atlas of Endangered Species*. Don Mills, ON: Quarto Publishing.
- Cadman, Michael D. (1991). Status Report on the Loggerhead Shrike (Eastern Population) *Lanius ludovicianus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Cadman, Michael D., and Annette M. Page (1995). Status Report on the Yellow-breasted Chat *Icteria virens* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Campbell, C.A., and G.R. Donaldson (1991). Status Report on the Eastern Spiny Softshell Turtle *Apalone spinifera* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Campbell, Craig A., and Richard B. King (1991). Status Report on the Lake Erie Water Snake *Nerodia sipedon insularum* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Campbell, E.W., and R.W. Campbell (1984). Status Report on the Barn Owl *Tyto alba* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1986). Status Report on the Spotted Owl *Strix occidentalis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Canada, Ministry of the Environment (1997). *An Act Respecting the Protection of Wildlife Species in Canada from Extirpation or Extinction* (Bill C-65). Reprinted as amended by the Standing Committee on Environment and Sustainable Development as a working copy for the use of the House of Commons at report stage and as reported to the House on March 3, 1997. Pub. No. 17999.
- Canadian Cattlemen's Association (1998). *Doing What Comes Naturally: Caring for the Environment*. Digital document: www.cattle.ca.
- Canada Yearbook* (1997). Published by authority of the Minister responsible for Statistics Canada. Ottawa, ON.
- Canadian Wildlife Service. *Recovery: An Endangered Species Newsletter*. Canadian Wildlife Service, various issues.
- (1995). *Biodiversity*. Cat. No. CW69-4/92-1995E. Ottawa, ON: Minister of Supply and Services.
- (1997). *RENEW Report #7*. Cat. No. CW70-3/1997E. Ottawa, ON: Minister of Public Works and Government Services.
- (1999). *Hinterland Who's Who. Endangered Species in Canada*. Digital Document: www.ec.gc.ca/cws-scf/hww-fap/endanger/endanger.html (April 16, 1999).
- Canne-Hilliker, Judith M. (1988a). Status Report on the Skinner's Agalaxis *Agalaxis Skinneriana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1988b). Status Report on the Gattinger's Agalaxis *Agalaxis Gattingeris* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Cannings, Richard J. (1992a). Status Report on the Sage Thrasher *Oreoscoptes montanus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Cannings, Richard J. (1992b). Status Report on the White-Headed Woodpecker *Picoides albolarvatus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Cannings, Richard, and Sydney Cannings (1996). *British Columbia: A Natural History*. Vancouver: Greystone Books.
- Collicutt, Douglas R. (1993). Status Report on the Western Prairie White Fringed Orchid *Platanthera praeclara* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Committee on the Status of Endangered Wildlife in Canada [COSEWIC] (1998). *Canadian Species at Risk* (April). Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada.
- (1999). *COSEWIC Update List*. September 9, 1999. Digital document: www.ec.gc.ca/press/csemdc_n_e.htm
- Consaul, Laurie L. (1994). Status Report on the Blunt-lobed Woodsia *Woodsia obtusa* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Cook, Francis R. (1981). Status Report on the Leatherback Turtle *Dermochelys coriacea* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Crins, William J. (1986). Status Report on the Hoary Mountain Mint *Pycnanthemum incanum* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Dauphine, Charles (1989). Status Report on the Wolverine *Gulo gulo* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

- Delta Waterfowl Foundation (1999). *Delta Waterfowl Foundation Demonstration Programs: Delta Waterfowl's Adopt a Pothole*. Digital document: www.deltawaterfowl.com/aap.html (April 22, 1999).
- De Smet, Ken D. (1992). Status Report on the Long-Billed Curlew *Numenius americanus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Doidge, D. W., and K. J. Finley (1992). Status Report on the Beluga (White Whale) *Delphinapterus leucas* in Canada (Eastern High Arctic/Baffin Bay Population). Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Douglas, George W., and Jeanne M. Illingworth (1996). Status Report on the White Top Aster *Aster curtus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Ducks Unlimited Canada (1998). *1998 Annual Report*. Oak Hammock Marsh, MB: Ducks Unlimited Canada.
- Edge, Thomas A. (1984). Status Report on the Acadian Whitefish *Coregonus huntsmani* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Ehrlich, Paul R., David S. Dobkin, and Darryl Wheye (1992). *Birds in Jeopardy: The Imperiled and Extinct Birds of the United States and Canada, Including Hawaii and Puerto Rico*. Stanford, CA: Stanford University Press.
- Environment Canada (1991). *The State of Canada's Environment*. Ottawa, ON: Government of Canada.
- (1996a). *Canada Endangered Species Protection Act: A Summary*. Cat. No. CW66-152/1996. Ottawa, ON: Minister of Public Works and Government Services Canada.
- (1996b). *The State of Canada's Environment*. Ottawa, ON: Government of Canada.
- Evans, D.O., J.J.P. Houston, and G.N. Meredith (1987). Status Report on the Lake Simcoe Whitefish *Coregonus clupeaformis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Federation of Ontario Naturalists (1999). *Nature Reserves*. Digital document: www.ontarionature.org (August, 28, 1999).
- Finley, Kerry J., John P. Hickie, and Rolph A. Davis (1995). Status Report on the Beluga (White Whale) *Delphinapterus leucas* in Canada (Beaufort Sea/Arctic Ocean Populations). Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Ford, Bruce A. (1994). Status Report on the Deerberry *Vaccinium stamineum* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Fox, Glenn (1998). Lessons from the US Experience with the Endangered Species Act. Paper presented at The Fraser Institute conference, *Protecting Endangered Species: Alternatives to Legislation* (April 15, Vancouver, British Columbia).
- Gallant, Gord (1999). *Canadian Birding Events, 1998*. Digital document: www.interlog.com/~gallantg/canada/events.html (November 16, 1998). Birding Canada.
- Galindo-Leal, Carlos, and J. Bruce Runciman (1994). Status Report on the Pacific Water Shrew *Sorex bendirii* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Gaskin, David E. (1991). Status Report on the Harbour Porpoise *Phocoena phocoena* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Gaston, Anthony J. (1993). Status Report on the Ancient Murrelet *Synthliboramphus antiquus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Gauvin, Claire (1984). Status Report on the American Water-Willow *Justicia americana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Gollop, J.B. (1978). Status Report on the Whooping Crane *Grus americana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Gollop, J.B., and C.E.P. Shier (1978). Status Report on the Eskimo Curlew *Numenius borealis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Goodchild, Cheryl D. (1989). Status Report on the Margined Madtom *Noturus insignis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1993a). Status Report on the Channel Darter *Percina copelandi* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1993b). Status Report on the Northern Madtom *Noturus stigmosus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Gordon, Robert (1998). Conservation under the US Endangered Species Act: Lessons for Canada. Paper presented at the Fraser Institute conference, *Protecting Endangered Species: Alternatives to Legislation* (April 15, Vancouver, British Columbia).
- Goskin, David E. (1990). Status Report on the Right Whale *Eubalaena glacialis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

- Goudie, R. Ian (1990). Status Report on the Harlequin Duck *Histrionicus histrionicus* (Eastern Population) in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Goward, Trevor (1996). Status Report on the Seaside Centipede *Heterodermia sitchensis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Haig, Susan (1985). Status Report on the Piping Plover *Charadrius melodus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Herman, Thomas B., Terrance D. Power, and Brian R. Eaton (1993). Status Report on the Blanding's Turtle *Emydoidea blandingii* (Nova Scotia Population) in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Hollingsworth, Dennis (1998). Why the US Regulatory Endangered Species Model is a Disaster for Small Property Owners and Hurts Species: Analysis and Case Studies. Paper presented at The Fraser Institute conference, *Protecting Endangered Species: Alternatives to Legislation* (April 15, Vancouver, British Columbia).
- Holm, Erling, and Nicholas E. Mandrak (1994). Status Report on the Eastern Sand Darter *Ammocrypta pellucida* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Houston, J.J.P. (1987). Status Report on the Shortjaw Cisco *Coregonus zenithicus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Illingworth, Jeanne M., and George W. Douglas (1996). Status Report on the Water-Plantain Buttercup *Ranunculus alismaefolius* var. *alismaefolius* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Innes, Robert, Stephen Polasky, and John Tschirhart (1998). Takings Compensation and Endangered Species Protection on Private Lands. *The Journal of Economic Perspectives* 12, 3 (Summer): 35–52.
- Kavanagh, Kevin, Leonard Hutchison, and Steve Varga (1990). Status Report on the Bird's Foot Violet *Viola pedata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Keddy, Cathy (1986). Status Report on the Eastern Mountain Avens *Geum peckii* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1987). Status Report on the Golden Crest *Lophiola aurea* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1988). Status Report on the Pitcher's Thistle *Cirsium pitcheri* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1994). Status Report on the Redroot *Lachnanthis caroliniana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Keddy, Cathy, and Paul Keddy (1984a). Status Report on the Pink Coreopsis *Coreopsis rosea* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1984b). Status Report on the Plymouth Gentian *Sabatia kennedyana* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Kelsall, John P. (1984). Status Report on the Woodland Caribou *Rangifer tarandus dawsoni* and *Rangifer tarandus caribou* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Kirk, Donald A. (1987). Status Report on the Spotted Wintergreen *Chimaphila maculata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1988). Status Report on the Colicroot *Aletris farinosa* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Kirkham, Ian R., and David Nettleship (1986). Status Report on the Roseate Tern *Sterna dougallii* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Klinkenberg, Brian (1991). Status Report on the Illinois Tick Trefoil *Desmodium illinoense* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Klinkenberg, Brian (1987). Status Report on the Blue-Eyed Mary *Collinsia verna* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Klinkenberg, Brian, and Rose Klinkenberg (1985). Status Report on the Eastern Prickly Pear Cactus *Opuntia humifusa* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Klinkenberg, Rose (1986). Status Report on the Large Whorled Pogonia *Isotria verticillata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

- Labrecque, Jacques, and Luc Brouillet (1990). Status Report on the Anticosti Aster *Aster anticostensis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Madsen, Grant (1998). Putting a Human Face on Endangered Species Legislation. Paper presented at the Fraser Institute conference, *Protecting Endangered Species: Alternatives to Legislation* (April 15, Vancouver, British Columbia).
- Martel, Jean-Pierre, and Nadeau, Simon (1997). Protecting Species behind the Trees. *Recovery: An Endangered Species Newsletter* (Canadian Wildlife Service) Spring: 4–5.
- Martin, Marilyn (1992). Status Report on the Peregrine Falcon *Falco peregrinus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Mayr, Ernst (1996). What is a Species and What is Not? *Philosophy of Science* 63.
- McCracken, J.D. (1993). Status Report on the Cerulean Warbler *Dendroica cerulea* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- McIlroy, Anne (1998). Green Just Not Ottawa's Colour. *The Globe and Mail* (May 27): A3.
- (1999a). Tough Endangered-Species Law Demanded. *The Globe and Mail* (February 24): A1.
- (1999b). Animal Activists Push US to Punish Canada: Trade Sanctions Sought over Endangered Species. *The Globe and Mail* (March 17): A1.
- McLeod, David (1996). Status Report on the Drooping Trillium *Trillium flexipes* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- McPhail, J.D. (1996). Status Report on the Nooksack Dace *Rhinichthys sp.* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- McPhail, J.D. (1988). Status Report on the Lake Stickleback *Gasterosteus spp.* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- McPhail, J.D. (1986). Status Report on the Salish Sucker *Catostomus sp.* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Metrick, Andrew, and Martin Weitzman (1998). Conflicts and Choices in Biodiversity Preservation. *The Journal of Economic Perspectives* 12,3 (Summer): 21–34.
- Miller, Frank L. (1991). Status Report on the Peary Caribou *Rangifer tarandus pearyi* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Minish, Barbara R. (1990). Status Report on the Greater Prairie-Chicken *Tympanuchus cupido*. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Mitchell, Edward, and Randall R. Reeves (1986). Status Report on the Bowhead Whale *Balaena Mysticetus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Mongeau, Jean-Rene, Pierre Dumont, Louise Cloutier, and Anne-Marie Clement (1987). Status Report on the Copper Redhorse *Moxostoma hubbsi* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Munro, William T. (1978). Status Report on the Vancouver Island Marmot *Marmota vancouverensis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Nature Conservancy of Canada (1997). *The Year in Conservation: 1997 Annual Report*. Toronto, ON: Nature Conservancy of Canada
- Oldham, Michael J., and Craig A. Campbell (1990). Status Report on the Cricket Frog *Acris crepitans* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Oxford Paperback Reference Concise Science Dictionary*, (1996). Third Edition. Oxford: Oxford University Press.
- Page, Annette M. (1994). Status Report on the King Rail *Rallus elegans* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1996). Status Report on the Prothonotary Warbler *Protonotaria citrea* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Page, Annette M., and Madeline J. Austen (1994). Status Report on the Northern Bobwhite *Colinus virginianus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Page, Annette M., and Michael D. Cadman (1994a). Status Report on the Acadian Flycatcher *Empidonax virescens* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1994b). Status Report on the Hooded Warbler *Wilsonia citrina* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Parker, B. (1987a). Status Report on the Great Lakes Deepwater Sculpin *Myoxocephalus thompsoni* in Canada. Ottawa,

- ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1987b). Status Report on the Paddlefish *Polyodon spathula* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1987c). Status Report on the Shortnose Cisco *Coregonus reighardi* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1988). Status Report on the Blackfin Cisco *Coregonus nigripinnis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Parker, B., and C. Brousseau (1987). Status Report on the Aurora Trout *Salvelinus fontinalis timagamiensis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Parker, B., and E. Kott (1988). Status Report on the Black Redhorse *Moxostoma duquesnei* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Parker, B., P. McKee, and R.R. Campbell (1987). Status Report on the Gravel Chub *Ermystax x-punctatus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Peden, Alex E., and Grant W. Hughes (1984). Status Report on the Shorthead Sculpin *Cottus confusus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Pippard, Leone (1983). Status Report on the Beluga (White Whale) *Delphinapterus leucas* in Canada (St. Lawrence River Population). Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Powell, G. Lawrence, and Anthony P. Russell (1992). Status Report on the Short-horned Lizard *Phrynosoma douglassii* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Pratt, P.D. (1986). Status Report on the Slender Bush Clover *Lespedeza virginica* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Reeves, Randall, and Edward Mitchell (1987). Status Report on the Gray Whale *Eschrichtius robustus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1988). Status Report on the Beluga (White Whale) *Delphinapterus leucas* in Canada (Ungava Bay and Eastern Hudson Bay Populations). Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Reynolds, Alan (1997). *Death, Taxes and the Independent Sector: Reflections on the Past and Future Growth of Private Charities and Foundations*. Washington, DC: Philanthropy Roundtable.
- Richard, P.R. (1987). Status Report on the Atlantic Walrus *Odobenus rosmarus rosmarus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1990). Status Report on the Beluga (White Whale) (S.E. Baffin Island/Cumberland Sound Population) *Delphinapterus leucas* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1993). Status Report on the Beluga (White Whale) (Western Hudson Bay Population) *Delphinapterus leucas* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Rodway, Michael S. (1990). Status Report on the Marbled Murrelet *Brachyramphus marmoratus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Roots, Clive (1987). *Endangered Species: Canada's Disappearing Wildlife*. Markham, ON: Fitzhenry and Whiteside.
- Rounthwaite, H. Ian (1998). *Protection of Endangered Species in Alberta: Private Property and Compensation Issues*. Unpublished paper. Faculty of Law, University of Calgary.
- Ryan, Michael, and George W. Douglas (1995a). Status Report on the Golden Paintbrush *Castilleja levisecta* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1995b). Status Report on the Yellow Montane Violet *Viola praemorsa ssp. praemorsa* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1996a). Status Report on the Deltoid Balsamroot *Balsamorhiza deltoidea* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1996b). Status Report on the Prairie Lupine *Lupinus lepidus var. lepidus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1996c). Status Report on the Seaside Birds-foot Lotus *Lotus formosissimus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Sabourin, Andre, and Denis Paquette (1994). Status Report on the van Brunt's Jacob's Ladder *Polemonium van-bruntiae*

- in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Sabourin, Andre, Michael J. Oldham, and Denis Paquette (1992). Status Report on the Small-flowered Lipocarpa *Lipocarpa micrantha* (Syn. *Hemicarpha micrantha*) in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Saskatchewan Department of Tourism and Renewable Resources (1978a). Status Report on the Black-footed Ferret *Mustela nigripes* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1978b). Status Report on the Swift Fox *Vulpes velox* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Seasholes, Brian (1995). Species Protection and the Free Market: Mutually Compatible. *Endangered Species UPDATE* 12, 4/5: 7–9.
- Shank, Chris (1996). Pigeonholing Nature: the Problem of Peripheral Species. *Recovery: An Endangered Species Newsletter* (Canadian Wildlife Service): 7.
- Sharp, Mirek J., Christopher J. Manderson, and William J. Crins (1995). Status Report on the White Wood Aster *Aster divaricatus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Sheehan, S. Tim, and Carlos Galindo-Leal (1996). Status Report on the Townsend's Mole *Scapanus townsendii* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Simon, Julian, and Aaron Wildavsky (1994). Species Loss Revisited. *Endangered Species Blueprint* (National Wilderness Institute) 5, 1: 6–9.
- Smith, Bonnie (1992). Status Report on the Slender Mouse-Ear-Cress *Halimolobos virgata* (Nutt.) O.E. Shulz in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Smith, Bonnie, and Cheryl Bradley (1992a). Status Report on the Sand Verbena *Abronia micrantha* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- (1992b). Status Report on the Western Spiderwort *Tradescantia occidentalis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Smith, Robert J. (1996). *Wildlife Protection and Private Property: The Need for Endangered Species Act Reform*. Washington, DC: Competitive Enterprise Institute.
- Snyder, Joyce (1986). Status Report on the Marten (Newfoundland Population) *Martes americana atrata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Stermer, Dugald (1995). *Vanishing Flora: Endangered Plants around the World*. New York: Harry N. Abrams.
- Stirrett, Geo. M. (1980). Status Report on the Furbish's Lousewort *Pedicularis furbishiae* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Stroup, Richard (1995a). Making Endangered Species Friends Instead of Enemies. *The American Enterprise* (September/October): 81–83.
- Stroup, Richard (1995b). Making Innocent Species the Enemy. Bozeman, MT: Political Research Center.
- Taschereau, P.M. (1986). Status Report on the Sweet Pepperbush *Clethra Alnifolia* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Thompson, Allan (1997). Ottawa Called Flop at Saving Species. *Toronto Star* (September 30): A6.
- Van Tighem, Kevin (1997). *Bears: An Altitude Superguide* (1997). Canmore, AB: Altitude Publishing.
- Waldron, Gerald E. (1991). Status Report on the White Prairie Gentian *Gentiana alba* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Wallis, Cliff, and Cheryl Bradley (1990). Status Report on the Western Blue Flag *Iris missouriensis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Watson, Jane C., Graeme M. Ellis, Thomas G. Smith, and John K. B. Ford (1996). Status Report on the Sea Otter *Enhydra lutris* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Weller, Wayne F., and Harold J. Parsons (1991). Status Report on the Eastern Massasauga Rattlesnake *Sistrurus catenatus catenatus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Wellicome, Troy I., and Elizabeth A. Haug (1995). Status Report on the Burrowing Owl *Speotyto cunicularia* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Wershler, C.R., and C.A. Wallis (1987). Status Report on the Mountain Plover *Charadrius montanus* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- White, David J. (1988). Status Report on the American Ginseng *Panax quinquefolium* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

- (1991). Status Report on the Golden Seal *Hydrastis canadensis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Whitehead, Hal (1985). Status Report on the Humpback Whale *Megaptera novaeangliae* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Wildlife Rescue News* (1998). Burnaby, BC: Wildlife Rescue Association of British Columbia: 2–4
- Wilson, Paul (1998). *A Legal Perspective on Federal and Provincial Endangered Species Legislation*. Paper presented at the Fraser Institute conference, *Protecting Endangered Species: Alternatives to Legislation* (April 15, Vancouver, BC).
- Wilson, Scott (1985). Status Report on the Water-pennywort *Hydrocotyle umbrellata* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Wood Bison Recovery Team (1988). Status Report on the Wood Bison *Bison bison athabascae* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Woodliffe, P. Allen (1988). Status Report on the Nodding Pogonia *Triphora trianthophora* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Zinck, Marian (1991). Status Report on the Thread-leaved Sundew *Drosera filiformis* in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada (COSEWIC).